DOCUMENT RESUME

ED 070 990 CG 007 695

TITLE	Strand I - Physical Health; Dental Health for Grades 4-6. Special Edition for Evaluation and Discussion.
INSTITUTION	New York State Education Dept., Albany. Curriculum Development Center.
NOTE	27p.
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	Course Descriptions; *Curriculum Guides; *Dental Health; Elementary School Curriculum; *Elementary School Students; Hygiene; *Instructional Materials; Intermediate Grades; *Physical Health; State Curriculum Guides; Teaching Guides

ABSTRACT

This is a curriculum guide for teaching dental health for grades 4-6. Each topic area is outlined under the headings of: (1) reference; (2) major understandings and fundamental concepts; (3) suggested teaching aids and learning activities; and (4) supplementary information for teachers. Main topics include: (1) growth and development of teeth; (2) nutrition and dental health; (3) dental health status; (4) maintaining oral hygiene; and (5) the dentist and dental health. Some of the course objectives are to: (1) develop good dental health habits including personal care and proper diet; (2) understanding the relationship of dental health to general health; (3) appreciate the relationship of dental health to appearance; (4) encourage periodic professional dental treatment; (5) avoid accidents to teeth, and (6) help the children understand and avoid habits which adversely affect dental health. (Related documents for other grade levels are CG 007 694 and CG 007 696.) (Author/BW)

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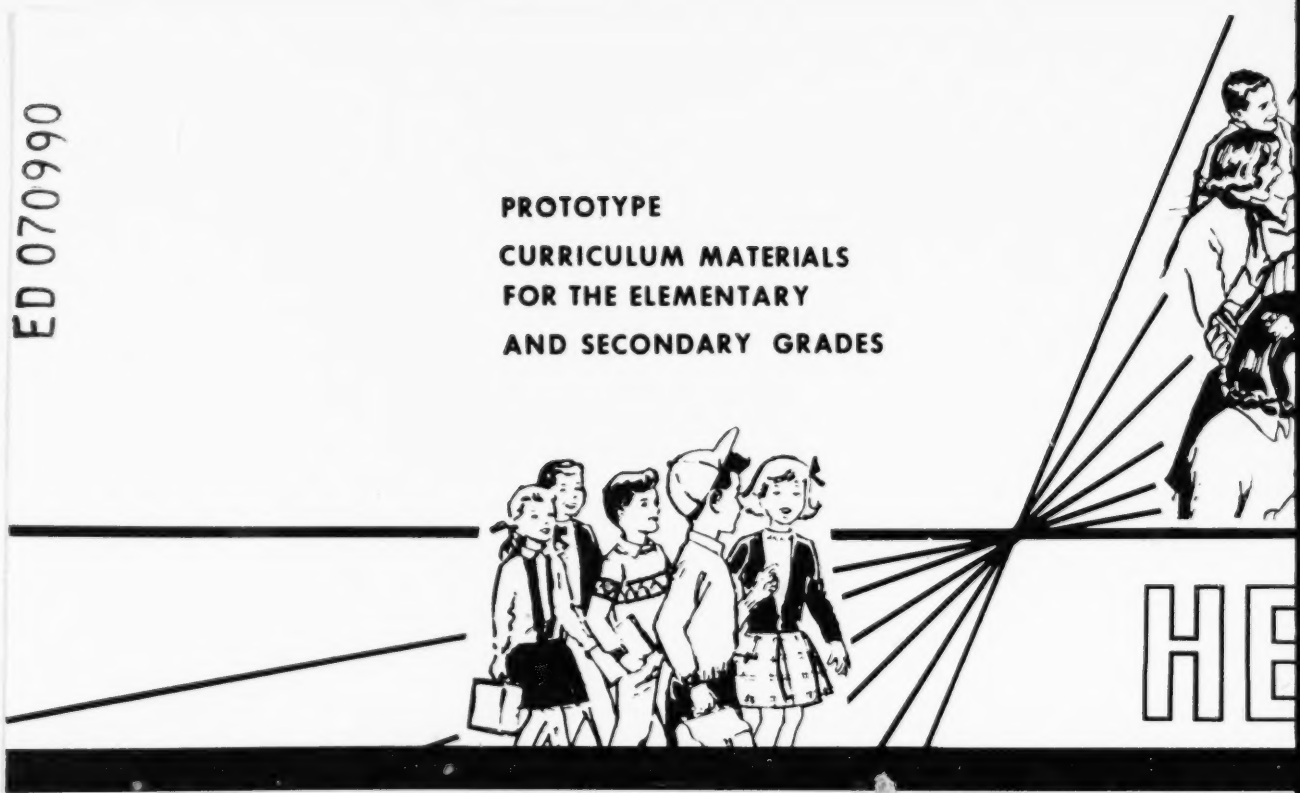

STRAND I
PHYSICAL HE

DENTAL HEALTH FOR GRADES 4-

SPECIAL EDITION FOR EVALUATION AND DISCUSSION

CG 007 695

THE UNIVERSITY OF THE STATE OF NEW YORK/THE STATE EDUCATION D
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ELEMENTARY
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HEALTH

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HYSICAL HEALTH

HEALTH FOR GRADES 4-6

OR EVALUATION AND DISCUSSION

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4-6 DENTAL HEALTH

Objectives:

1. Develop good dental health habits including personal care and proper diet
2. Understand the relationship of dental health to general health
3. Appreciate the relationship of dental health to appearance
4. Encourage periodic professional dental treatment
5. Avoid accidents to teeth
6. Improve the child's dental health status
7. Help the children understand and avoid habits which adversely affect dental health

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES
I. Growth and Development of Teeth	The teeth are calcified structures fixed in bony sockets in the upper and lower jaws. The parts of a tooth include the: . ROOT-which anchors it in the jawbone . CROWN-the part which is visible in the mouth . NECK-which is a slightly narrowed portion where the root and crown meet.	Review the developmental facts learned in K-3 dental health concerning the primary and permanent teeth. Show filmstrip, *The Teeth*, color, from Stanley Bowmar Co.

MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
The teeth are calcified structures fixed in bony sockets in the upper and lower jaws. The parts of a tooth include the: . ROOT-which anchors it in the jawbone . CROWN-the part which is visible in the mouth . NECK-which is a slightly narrowed portion where the root and crown meet.	Review the developmental facts learned in K-3 dental health concerning the primary and permanent teeth. Show filmstrip, *The Teeth*, color, from Stanley Bowmar Co.	The characteristic dentition of children five-to-seven and eight-to-nine can be found in the K-3 dental health syllabus. Characteristic dentition of the ten-to-eleven year old child: . the primary molars are being shed and replaced by permanent bicuspids. . there is the eruption of the cuspids and bicuspids. . stains frequently occur on the teeth. Characteristic dentition of the twelve-to-thirteen year old child: . there is the eruption of the upper and lower second molars . an irregular appearance of teeth may occur. A child should visit his dentist to check for malocclusion at this time. . except for the third molars (wisdom teeth) the child has 28 of his full complement of 32 permanent teeth. The four third molars will usually appear after age seventeen.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES
A. The Structure of Teeth	The tooth is composed of four tissues, the: · ENAMEL - a hard, shiny substance covering the crown · CEMENTUM - a bone-like substance covering the root · DENTIN - an ivory-like substance, softer than the enamel, that forms the body of the tooth · PULP - contains nerves, blood vessels, lymphatics, and young cells.	Have a student make a po er showing a cross-secti picture of a tooth with parts labeled. Study a cross-section dr ing or a model of a toot to learn the various par Look up the derivation o various dental terms suc as peridontal, incisor, and cusp. Include dental words in spelling lessons. Fourt and fifth grade pupils should be able to spell words such as: erupt gingia cuspid bacteria bicuspid Novocaine calcium premolar molar fluoride permanent abscess enamel malocclusi pulp orthodonti decay cusps tartar impact Show the film, "Teeth Their Structure and Care A.D.A. 11 min. color. sound.

MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
The tooth is composed of four tissues, the: · ENAMEL - a hard, shiny substance covering the crown · CEMENTUM - a bone-like substance covering the root · DENTIN - an ivory-like substance, softer than the enamel, that forms the body of the tooth · PULP - contains nerves, blood vessels, lymphatics, and young cells.	Have a student make a poster showing a cross-section picture of a tooth with all parts labeled. Study a cross-section drawing or a model of a tooth to learn the various parts. Look up the derivation of various dental terms such as peridontal, incisor, and cusp. Include dental words in spelling lessons. Fourth and fifth grade pupils should be able to spell words such as: erupt, cuspid, bicuspid, calcium, molar, permanent, enamel, pulp, decay, tartar, gingia, bacteria, Novocaine, premolar, fluoride, abscess, malocclusion, orthodontist, cusps, impact Show the film, "Teeth Their Structure and Care," A.D.A. 11 min. color. sound.	The dental pulp, which occupies the chamber in the center of the tooth and the root canal, is composed of connective tissue containing the nerves, arteries, veins, and lymphatics that enter the tooth through an opening at or near the apex of the root. Make sure the children understand that a tooth is a living thing requiring food and reacting to various stimuli, such as temperature and pressure. The blood vessels in the pulp carry food to the tooth, while the nerve endings in the pulp relay feelings of pain and other sensations to the brain. The regenerative powers of the pulp tissue are

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
		Make a study of animals' teeth and compare kinds and functions to human teeth. For example, the central incisors, used for cutting food, can be compared to a horse's front teeth which are used for the same purpose.	relatively poor. If decay is allowed to penetrate the protective dentine, a permanent loss of tooth vitality results. Surgical treatment is usually required involving removal of pulp or extration of the tooth.
		Compare the animals' teeth to the food they eat. For example, a lion eats meat, hence the use of teeth for tearing food.	When jaws are closed, the upper front teeth should slightly overlap the lower front teeth and the cusps of the upper and lower molars fit snugly together to form an effective chewing machine.
	Covering the root of the tooth and lining the wall of the socket in the bone is a thin, fragile layer of tissue called the peridontal membrane that helps to: hold the tooth in place . cushion the shock of the teeth coming together in chewing . is important in the development of the tooth and bone support in the socket . helps to keep infection localized in the area of the socket . provides nutrients to		

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING A AND LEARNING ACTIVIT
	the tooth the peridontal membrane is a continuation of the gums around the roots of the teeth.	
B. Types and Functions of Teeth	Our teeth help us to: . chew food for good health . speak clearly . look attractive . have proper facial form Each tooth has a name which indicates its special job in chewing food: . the four central incisors, two in each jaw, are the center front teeth used to cut food. The crowns are flat and sharp and there is one root. There are four lateral incisors, one next to each of the central incisors. The lateral incisors also have a flat, sharp crown and are used to cut food. There are four cuspids, each located just behind the lateral incisors in the corners of the mouth. The crown of the cuspid is	Have each student bite to some wax or other s substance in such a wa that the marks left fr their incisors show. them examine the marks learn how the incisors in the upper jaw work v those in the lower jaw Demonstrate with sciss to show how incisors v Have students write or al playlets, poems, or stories that illustrate the functions of each k of tooth. Using questions compile the class, conduct a qu program regarding the d velopment, function, an my, and care of teeth. Have students make mode of teeth from soap, cla plaster, or paper mache Ask the pupils why it i that they can bite, tea

MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
the tooth		
the peridontal membrane is a continuation of the gums around the roots of the teeth.		
Our teeth help us to: . chew food for good health . speak clearly . look attractive . have proper facial form	Have each student bite into some wax or other soft substance in such a way that the marks left from their incisors show. Have them examine the marks to learn how the incisors in in the upper jaw work with those in the lower jaw.	
Each tooth has a name which indicates its special job in chewing food: . the four central incisors, two in each jaw, are the center front teeth used to cut food. The crowns are flat and sharp and there is one root.	Demonstrate with scissors to show how incisors work. Have students write original playlets, poems, or stories that illustrate the functions of each kind of tooth.	
There are four lateral incisors, one next to each of the central incisors. The lateral incisors also have a flat, sharp crown and are used to cut food.	Using questions compiled by the class, conduct a quiz program regarding the development, function, anatomy, and care of teeth.	
There are four cuspids, each located just behind the lateral incisors in the corners of the mouth. The crown of the cuspid is	Have students make models of teeth from soap, clay, plaster, or paper mache. Ask the pupils why it is that they can bite, tear,	

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
	a single sharp projection or cusp and there is one root. The cuspids are used for tearing food. There are eight bicuspids, two of which are located behind each cuspid. The bicuspids, which have two cusps and one or two roots, are used to tear and grind food. There are twelve molars in all, but the last four, known as wisdom teeth, do not usually erupt until a person is at least seventeen years of age. Three molars are located to the rear of each of the bicuspids. Molars have several cusps and are used to grind food. The upper molars usually have three roots and the lower molars two.	and chew food without pain. Draw pictures of various kinds of teeth showing their functions such as: INCISORS - cutters or biters CUSPIDS - have a sharp cusp or point for tearing MOLARS - grinders BICUSPIDS - have two points or cusps to tear and grind Obtain a chart of the body's blood supply to the teeth. Have each child make a booklet showing the dentition characteristics of his age level. Use a mortar and pestle to grind food (such as grain) to show how molars work. Examine models of teeth to observe pits and fissures.	

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES
		CHART SHOWING RE Primary (20) Four central incisors re Four lateral incisors re Four cuspids re Four first molars re Four second molars re
II. Nutrition and Dental Health	Foods necessary for maintaining oral health are the same as those needed for general physical health.	Review the dietary requirements for good mouth health learned in K-3 dental health concerning a well-balanced diet, effect of sweets, etc.
	Highly refined and over cooked soft foods tend to	Plan a well-balanced meal for the school cafeteria

UNDERSTANDINGS AND AMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
	CHART SHOWING REPLACEMENT	
	Primary (20) — Permanent (32)	
	Four central incisors — replaced by — Four central incisors	
	Four lateral incisors — replaced by — Four lateral incisors	
	Four cuspids — replaced by — Four cuspids	
	Four first molars — replaced by — Four first bicuspids	
	Four second molars — replaced by — Four second bicuspids	
		Four first molars
		Four second molars
		Four third molars (wisdom teeth)
cessary for main- oral health are as those needed ral physical	Review the dietary requirements for good mouth health learned in K-3 dental health concerning a well-balanced diet, effect of sweets, etc.	A reduction in the frequency of sugar intake is more important than in the amount consumed since there is a fresh attack upon the teeth by the acid each time sugar is eaten.
efined and over oft foods tend to	Plan a well-balanced meal for the school cafeteria	Eating of granular, fibrous foods, such as fresh fruits

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLE
	impact between the teeth and cling to their surfaces.	avoiding sweets.	and veg ficial the tee cooked, impact and cli whereas tend to the tee
	Coarse foods, such as apples, oranges, cucumbers, celery and carrots help to clean and brush the teeth. Coarse foods also stimulate the gums. The use of fresh fruits and vegetables, milk, and juices for between meal snacks is better for your teeth and general health than sweet snacks.	Observe the teeth of a dog to show the benefit of chewing coarse foods which are low in sugars. Prepare, as a group, such snacks as apple slices, dried fruit, celery, carrot sticks, and nuts that can be eaten between meals. Discuss how satisfying they are to the appetite and the values of each kind of snack. Note how celery and carrot sticks help to cleanse the teeth.	Chewing will ca move up in thei conduci There i amount popular For exa ITEM coca-co root be candy b cherry
	Vitamins A, C, and D, as well as the minerals calcium and phosphorus, are especially important for good dental health. . VITAMIN A aids in the deposition of calcium and phosphorus in the teeth during the period of development . VITAMIN C helps to make	Have the students find and list the most common sources of vitamins C and D and the minerals calcium and phosphorus. Have students bring in and analyze a typical week's menu in terms of foods that are detrimental to good dental health.	Consult labus, of vita and the and phos A lack

NGS AND CEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
teeth sur-	avoiding sweets.	and vegetables, is beneficial to the health of the teeth and gums. Highly cooked, refined foods often impact between the teeth and cling to their surfaces whereas the coarse foods tend to brush off and clean the teeth.
as ap- umbers, help the ds also	Observe the teeth of a dog to show the benefit of chewing coarse foods which are low in sugars.	Chewing coarse foods also will cause the teeth to move up and down slightly in their sockets, which is conducive to their health.
ruits k, and meal r your ealth	Prepare, as a group, such snacks as apple slices, dried fruit, celery, carrot sticks, and nuts that can be eaten between meals. Discuss how satisfying they are to the appetite and the values of each kind of snack. Note how celery and carrot sticks help to cleanse the teeth.	There is a substantial amount of sugar in most popular foods. For example: ITEM — AMOUNT OF SUGAR coca-cola 6oz. 4 1/3tsp. root beer 10oz. 4 1/2tsp. candy bar 1-5oz. 5-10tsp. cherry pie 1 slice 10tsp.
D, as s orus, rtant lth. the cium the period o make	Have the students find and list the most common sources of vitamins C and D and the minerals calcium and phosphorus. Have students bring in and analyze a typical week's menu in terms of foods that are detrimental to good dental health.	Consult the nutrition syllabus, 4-6, for the sources of vitamins A, C, and D and the minerals calcium and phosphorus. A lack of vitamin C can

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES
	. the walls of blood vessels firm. . VITAMIN D helps to absorb calcium from the digestive tract and build calcium and phosphorus into teeth and bones during the period of development.	Discuss possible changes that could be made in the diets to improve dental health. Have a committee prepare posters and charts of food which are rich in minerals and vitamins. Discuss the mineral needs for sound tooth improvement.
III. Dental Health Status		
A. Malocclusion	Malocclusion is the term applied to irregularities in the position of the teeth and the improper coming together of the teeth upon closing the jaw. There are two general causes of malocclusion. One is heredity, such as tooth size and jaw structure. The other cause is due to poor dental health habits such as: . thumb and finger sucking . chewing on foreign objects . lip biting . mouth breathing . the early loss of primary or permanent teeth as a result of poor dental care	Study drawings of malocclusion, avoiding personal reference to children who have irregular teeth. Discuss the probable causes. Procure from a dentist some discarded X-rays or casts of the teeth and look for: . teeth that may be out of position . impacted teeth . malformed roots . orthodontic braces and space maintainers Draw pictures and cartoons showing how teeth affect personal appearances. Make pictures and posters illustrating dental

UNDERSTANDINGS AND AMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHRES
lls of blood ves- firm. N D helps to ab- alcium from the tive tract and build um and phosphorus eeth and bones the period of pment.	Discuss possible changes that could be made in the diets to improve dental health. Have a committee prepare posters and charts of foods which are rich in minerals and vitamins. Discuss the mineral needs for sound tooth improvement.	cause bleeding of the gums. In studies, the addition of the essential amino-acid lysine to controlled diets has effectively prevented dental caries in rats. (National Institute of Dental Research)
usion is the term to irregularities osition of the d the improper ogether of the on closing the jaw. e two general f malocclusion. eredity, such as ze and jaw struc he other cause is oor dental health uch as: and finger sucking g on foreign ob- ting breathing rly loss of primary manent teeth as a of poor dental	Study drawings of malocclusion, avoiding personal reference to children who have irregular teeth. Discuss the probable causes. Procure from a dentist some discarded X-rays or casts of the teeth and look for: . teeth that may be out of position . impacted teeth . malformed roots . orthodontic braces and space maintainers Draw pictures and cartoons showing how teeth affect personal appearances. Make pictures and posters illustrating dental	Malocclusion develops most commonly during the time when a child is losing his primary teeth and his permanent teeth are erupting. The heredity factors involved with malocclusion are: . the eruption of the teeth more advanced than the growth of the jaws . narrow dental arches . shedding of the deciduous teeth too early . prolonged retention of the deciduous teeth The early loss of primary or permanent teeth as a result of poor dental care may result in a drifting

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
		irregularities caused by loss of teeth. Study the costs of preventive dentistry as compared to remedial treatment. Discuss photographs or slides showing "before and after" in orthodontic cases. If possible, obtain X-rays or casts of before and after cases from an orthodontist.	out of position of the teeth erupting adjacent to or opposite the space left by a lost tooth.
	Malocclusion usually interferes with the chewing of food. Malocclusion affects the appearance of the teeth and may cause facial deformities. Malocclusion can often be prevented by proper professional dental care from infancy. Malocclusion can often be corrected by your dentist or a specialist known as an orthodontist. Malocclusion makes it difficult to keep the teeth clean.	Discuss the effects of poor bite on chewing food, speech patterns, and appearance. Invite the Dental Hygiene Teacher to discuss with the class the importance of a "good bite."	The harmful effects of malocclusion may include the: . interference with proper chewing of food, causing an individual to select foods not suitable for adequate nutrition . causing of facial deformities . problem of speech defects . possibility of social and emotional disturbances . increased possibility of tooth decay . difficulty of keeping the teeth clean . possibility of periodontal (or gum) disease in later life

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES
B. Dental Caries	Caries begin with a small hole, usually in a fissure or flaw of a tooth, in an area where food may become lodged, or where it is difficult to remove food by brushing.	Review the causes, effects, and treatment of dental caries learned in the K-3 dental health program. Obtain and examine some molars for fissures or flaws that would be conducive to the development of caries. Using mirrors, have children examine their own teeth to find areas where food may become lodged or where it is difficult to remove by brushing.

ANDINGS AND CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
		There is no "right" time to break thumb sucking habits: although the sooner it is done, the better.
ith a small in a fissure ooth, in an d may become re it is dif- ve food by	Review the causes, effects, and treatment of dental caries learned in the K-3 dental health program. Obtain and examine some molars for fissures or flaws that would be conducive to the development of caries. Using mirrors, have children examine their own teeth to find areas where food may become lodged or where it is difficult to remove by brushing.	The causes, effects, and treatment of dental caries can be found on page four of the K-3 dental health syllabus. Research has established the fact that dental caries is caused by the action of bacteria on fermentable carbohydrates, principally sugar, in the mouth. Fermentation caused by the action of bacteria produces acids which can dissolve tooth enamel. The most significant factors in the cause of damage to the teeth by caries are: . the presence of dental plaques . the strength of the acids and the ability of the saliva to neutralize them . the length of time the acids are in contact with the teeth . susceptibility of the teeth to decay

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
		A simple dramatic test that can be used to detect dental plaque deposits is the application to the teeth of a harmless food dye which will stain clumps of material sticking to the teeth.	Dental plaques are a gluely, gelatin-like substance that adhere to the teeth and afford protection for the bacteria. The initial action that causes damage to a tooth occurs under a dental plaque.
	Unless small cavities are filled, the decay will penetrate the dentin. Decay progresses rapidly in dentin because it is softer than enamel.	Review the structure of a tooth, then discuss the process of decay from the enamel and the dentin to the pulp. Discuss the importance of early detection and treatment of caries.	The foods most easily converted into acids are fermentable sugars, some of which are converted into acids within five to ten minutes after thay are taken into the mouth. A longer period may be required for the same process to occur with other foods.
	When decay reaches the pulp, the blood vessels and nerves become infected and an abcess will probably form. There is usually soreness, pulsating pain, and swelling with the abscess.	Have the students explain the danger of decay in a tooth in relation to adjacent teeth. Make a study of new types of preventives for dental decay, through popular current magazines and from family dentist.	Dental decay cannot be produced in germfree animals. (National Institute of Dental Research)
	The extent of damage may be determined by the dentist with an X-ray. Sometimes such a tooth may have to be extracted.	Show movie, "Save Those Teeth," Stanley Bowmar Co., b&w.	
	Bacteria are in a gelatin-like mass known as dental plaque.	Using saliva cultures, conduct bacterial growth experiments to show rapid growth of bacteria.	

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES
	Bacteria live on sweets which they convert to an acid which dissolves the tooth enamel, thus starting the decay process.	Procure from a dentist some discarded X-rays and look for: . decay . small hidden cavities . fillings . abscesses Examine tooth decay bacteria under a microscope. Make posters and pictures illustrating: . steps in tooth decay . abcess on roots of teeth Have the children make up graphs which indicate the occurence of dental decay in the class.
C. Periodontal Disease	Diseases of the gums and other supporting structures of the teeth are called periodontal diseases. The most common periodontal diseases are: . GINGIVITIS, or inflamation of the gums, in which the gums are red, puffy, and may bleed easily. VINCENT'S INFECTION,	Obtain from a local dentist a series of slides showing stages of periodontal diseases. Invite a dentist or dental hygiene teacher or dental hygienist to discuss the cause, effect, and treatment of periodontal diseases. Have the students write short compositions on various dental diseases and how they can be prevented.

UNDERSTANDINGS AND DAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
ı live on sweets ıey convert to an ich dissolves the amel, thus start- decay process.	Procure from a dentist some discarded X-rays and look for: . decay . small hidden cavities . fillings . abscesses Examine tooth decay bacteria under a microscope. Make posters and pictures illustrating: . steps in tooth decay . abcess on roots of teeth Have the children make up graphs which indicate the occurence of dental decay in the class.	
of the gums and pporting structures eeth are called tal diseases.	Obtain from a local dentist a series of slides showing stages of periodontal diseases.	Periodontal is derived from the Greek, the prefix, "peri" meaning "around," and "ondontos" meaning "tooth".
common periodontal are: ITIS, or inflama- f the gums, in the gums are red, and may bleed .	Invite a dentist or dental hygiene teacher or dental hygienist to discuss the cause, effect, and treatment of periodontal diseases. Have the students write short compositions on various dental diseases and how they can be prevented.	Gingivitis is caused by an accumulation of soft and hard deposits (tartar), packing of food between the teeth, lack of proper tooth-brushing, injury, or poor nutrition.
T'S INFECTION,		Vincents' Infection,

REFERENCE	MAJOR UNDERSTANDIGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
	which attacks the gums and tissues of the mouth and throat, causes swollen, easy to bleed tissues that are tender and painful. It also causes bad breath.		commonly known as "trench mouth", is often seen in adolescence or early adulthood, 12-18 years. It is non-contagious. Vincents' Infection may follow illness, dietary deficiency, or emotional upset.
	. PERIODONTITIS usually originates as gingivitis. As the inflamation spreads the gum withdraws from the tooth, forming a pocket which fills with bacteria and pus. This weakens the support of the tooth and may cause its loss. Peridontal diseases can best be prevented by: . proper tooth brushing including the massaging of the gums . a well-balanced diet . regular visits to the dentist The loss of teeth in adults is commonly caused by periodontal disease.	Make posters or arrange a bulletin board display showing the stages of periodontal disease. Include a poster or section on prevention of these diseases. Discuss the importance of maintaining the permanent teeth and good oral health throughout life.	Periodontitis frequently starts during the latter part of mixed dentition (eight to twelve years). The removal of tartar by a dentist is important in the prevention of gingivitis and periodontitis. Canker sores, which are usually single small ulcers in the lining of the mouth, are not considered to be a periodontal disease. They are probably caused by a virus and usually heal in from eight to ten days. A dentist can treat canker sores to relieve the pain associated with them. However, certain kinds tend to persist or to come back in spite of any treatment known.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCPETS	SUGGESTED TEACHIN AND LEARNING ACTI
D. Traumatic Injury	Traumatic injury can crack, loosen, or knock out teeth. Traumatic injury to the facial bones and tissues can cause malocclusion and affect speech patterns and personal appearance.	Invite the dental h teacher to discuss onstrate the recomm first aid procedure cases of accidental to the teeth or the porting structure. Stress the importan immediate attention broken or loosened
E. Missing Teeth	Teeth work in pairs. When one is missing, its mate cannot work well.	Stress the fact tha tooth has a proper tion to the teeth o side of it and to t teeth it bites agai when the jaws close
	Premature loss of primary teeth is the most frequent cause of malocclusion.	Have a committee of dren make posters s dental irregularitie caused by loss of te
	Missing teeth may cause other teeth to shift positions, causing an interference with chewing and destroying the normal symmetry of the face and jaw.	

ERSTANDINGS AND NTAL CONCPETS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHEPS
injury can crack, knock out teeth. injury to the es and tissues malocclusion and ech patterns and ppearance.	Invite the dental hygiene teacher to discuss and demonstrate the recommended first aid procedures in cases of accidental injury to the teeth or their supporting structure. Stress the importance of immediate attention to broken or loosened teeth.	The maxillary or upper front teeth are the most frequently injured. It is possible for a dentist to cap temporarily a fractured tooth until permanent repair can be made. If a tooth is completely knocked out, immediate reimplantation may be possible if the tooth is dropped into a glass of water and the tooth and child are rushed to the dentist.
in pairs. When ing, its mate well.	Stress the fact that each tooth has a proper relation to the teeth on each side of it and to the teeth it bites against when the jaws close.	
loss of primary e most frequent locclusion.	Have a committee of children make posters showing dental irregularities caused by loss of teeth.	Space maintainers can be placed when primary teeth are lost early, thus lessening or even preventing more complicated treatment later.
th may cause to shift posiing an interh chewing and the normal symfe face and jaw.		A fixed bridge is supported by crowns and inlays on the abutment teeth which stabilizes these teeth, thus preventing a drifting or movement which may lead to serious malposition.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES
	Missing permanent teeth are replaced with appliances known as partial dentures. . A fixed partial denture is used when the space made by missing teeth is between two teeth. . A removable partial denture must be used when there is no tooth behind the space.	Obtain discarded partial dentures from a dental office. Examine, discuss, and demonstrate their value and method of attachment. Discuss the problems caused by missing teeth and the necessity of professional dental care to prevent or control these problems.
IV. Maintaining Oral Hygiene	Proper home care of the teeth is one of the most important single contribution of mouth health.	Review the techniques and importance of proper brushing covered in grades K-3.
A. Techniques of home care	Brushing regularly is the basis for home care of the teeth. The dentrifice used serves three purposes: . to assist the toothbrush in freeing debris and stain from the accessible surfaces of the teeth . to aid as a caries preventive agent . preventing and controling mouth odors	Show movie, *You can Prevent Tooth Decay*, A.D.A. Discuss why, when, and how we brush our teeth. Assign class members to collect dental products advertisements. Discuss the scientific accuracy of the claims made. Show movie, *Three Cheers for a Big Smile*, National Dairy Council.
	Massaging the gums: . promotes a better distribution of blood to all parts of the tissues.	Have some students demonstrate various methods of massaging the gums: . While brushing their teeth

AJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
ssing permanent teeth e replaced with appli- ces known as partial ntures. A fixed partial denture is used when the space made by missing teeth is between two teeth. A removable partial denture must be used when there is no tooth behind the space.	Obtain discarded partial dentures from a dental office. Examine, discuss, and demonstrate their value and method of attachment. Discuss the problems caused by missing teeth and the necessity of professional dental care to prevent or control these problems.	Both fixed and removable partial dentures may be used to replace one or several missing teeth.
oper home care of the eth is one of the most portant single contribu- on of mouth health.	Review the techniques and importance of proper brushing covered in grades K-3.	Techniques of brushing the teeth can be found on pages 2 and 3 of the K-3 dental health syllabus.
shing regularly is the sis for home care of the eth. The dentrifice used rves three purposes: o assist the toothbrush n freeing debris and tain from the accessible urfaces of the teeth o aid as a caries pre- ventive agent reventing and controling outh odors	Show movie, *You can Prevent Tooth Decay*, A.D.A. Discuss why, when, and how we brush our teeth. Assign class members to collect dental products advertisements. Discuss the scientific accuracy of the claims made. Show movie, *Three Cheers for a Big Smile*, National Dairy Council.	A dentifrice, in itself, will not prevent dental caries. However, the usefulness of stannous fluoride dentifrice as a caries preventive agent is recognized by the Council on Dental Therapeutics of the American Dental Association.
saging the gums: promotes a better dis- tribution of blood to all parts of the tissues.	Have some students demonstrate various methods of massaging the gums: . while brushing their teeth	One way to message the gums is with toothpaste placed on the thumb and forfinger. Rub the gums with a circular motion.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
	next to the teeth. . serves as a stimulant to the blood stream and brings about relaxation of the nerves by relieving congestion. . will make the mouth feel better and cause the gums to become firmer and healthier.	. with a rubber-tipped brush . with a clean index finger and thumb Have the children evaluate dentifrice advertisements.	Using the proper method of toothbrushing will both massage the gums and clean the teeth. A rubber tip device on the end of a toothbrush should be used only on the recommendation of a dentist and after careful instructions have been given. The use of foreign objects in the mouth, smoking, or neglected teeth may cause an irritation of the teeth and oral tissues that may lead to oral cancer. A water pick, which essentially does the same job as dental tape or floss, is recommended by many dentists. Dentists discourage the use of toothpicks because of possible injury to the gum.
	Rinsing the mouth helps to remove loose particles of food from the teeth and mouth. The mouth should be rinsed thoroughly both before and after brushing the teeth.	In reference to rinsing, point out that: . pure water is a satisfactory mouthwash . the usual commercial mouthwash has no medicinal value. . a medicinal mouthwash should not be used unless	Most commercial mouthwashes consist mainly of flavored, sweetened colored water.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES
		prescribed by a dentist for certain conditions of the gums and other tissues of the mouth.
	Dental tape, or dental floss, can be used to remove food particles wedged between the teeth beyond the reach of the toothbrush.	Have a dentist or dental hygiene teacher explain the purpose and techniques of using dental tape or dental floss. Special care must be taken to avoid injury to the fragile gingival tissues between the teeth.
B. Safety	Most traumatic injuries to the teeth and oral tissues can be prevented.	Discuss and list on the blackboard such unsafe actions as: . pushing and shoving at drinking fountains . running, walking or riding with sharp or pointed objects in the mouth . biting on hard objects . careless riding of bicycles . carelessly throwing objects . pushing, shoving, and tripping . cracking nuts or opening soda bottles with the teeth

STANDINGS AND AL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
	prescribed by a dentist for certain conditions of the gums and other tissues of the mouth.	
or dental e used to re- rticles wedged eeth beyond the tooth-	Have a dentist or dental hygiene teacher explain the purpose and techniques of using dental tape or dental floss. Special care must be taken to avoid injury to the fragile gingival tissues between the teeth.	Dental tape may be obtained in several thicknesses; the need depending on the space between the teeth. Dental tape or floss should be used with great care and only on advice of the dentist because of possible harm to the soft tissue around the teeth. Contrary to many advertising campaigns, chewing gum is not a dental aid.
c injuries and oral tis- revented.	Discuss and list on the blackboard such unsafe actions as: . pushing and shoving at drinking fountains . running, walking or riding with sharp or pointed objects in the mouth . biting on hard objects . careless riding of bicycles . carelessly throwing objects . pushing, shoving, and tripping . cracking nuts or opening soda bottles with the teeth	

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AND LEARNING ACTIV
	In competitive sports, teeth, face, and mouth can be protected by wearing fitted mouth or face protectors.	Have the children d rules for dental sa school and at home. could be the basis bulletin board disp
C. Habits	Lip biting, persistent sucking, chewing on foreign objects, and other poor habits may cause malocclusion, oral infection, chipping of the teeth, and other dental health problems.	Discuss and list on blackboard good and dental health habits plore the formation habits, and why subs ing a good habit is the best way to brea poor habit. Ask why often hard to break habits even if you w

UNDERSTANDINGS AND AMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
etitive sports, teeth, nd mouth can be pro- by wearing fitted r face protectors.	Have the children develop rules for dental safety at school and at home. This could be the basis of a bulletin board display.	Mouth protectors made of soft rubber or plastic help to reduce sudden shock to the teeth. Parents and teachers must constantly impress upon children the danger of unsafe actions and insist on adherence to safety procedures. Mechanical water irrigating devices are useful in removing lose debris from areas inaccessible to the toothbrush. They should be used only on the recommendation of the dentist.
ng, persistent chewing on for- ects, and other poor ay cause malocclu- al infection, chip- the teeth, and ntal health prob-	Discuss and list on the blackboard good and poor dental health habits. Explore the formation of habits, and why substituting a good habit is often the best way to break a poor habit. Ask why it is often hard to break bad habits even if you want to.	Consult the K-3 Dental Health Syllabus, page 3, for additional information on poor dental health habits. Use a positive approach. Don't embarrass children who still suck their thumbs or have similar habits. Each case should be dealt with carefully or an individual basis. Chewing on foreign objects may injure the teeth and membranes which support the teeth.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SU
D. Halitosis	The primary cause of halitosis, or bad breath, is lack of proper oral hygiene. Other causes of halitosis are: . infected teeth or gums . periodontal disease . stomach disorders . certain types of food, such as raw onions, cause temporary halitosis . infections, in the nose, throat and lungs . lung cancer . smoking . diabetes	Have the children bring in reports on various television, newspaper, and magazine advertisements pertaining to products that "sweeten" or "clean" a user's breath. These could form the basis of a report and discussion on halitosis. Also, an evaluation of such advertisements could be made in terms of scientific accuracy, and a conclusion reached as to the best ways to maintain oral hygiene and prevent bad breath could be reached. Use the magazine and newspaper advertisements mentioned above in a bulletin board display pertaining to halitosis and other dental health problems. Such a display should be balanced with one showing the social advantages of good dental health.	A d and sho bes ora the hom cus fes
V. Dentist and Dental Health	All dental decay cannot be prevented, so there is no substitute for regular visits to the dentist.	Give either an oral or a written pretest to determine how much the children already know about the responsibilities of a dentist and the importance of regular professional care.	Pag Den tai den car

DERSTANDINGS AND ENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
ry cause of halibad breath, is roper oral hygiene. es of halitosis l teeth or gums ntal disease disorders types of food, raw onions, mporary hali- ns, in the nose, nd lungs cer	Have the children bring in reports on various television, newspaper, and magazine advertisements pertaining to products that "sweeten" or "clean" a user's breath. These could form the basis of a report and discussion on halitosis. Also, an evaluation of such advertisements could be made in terms of scientific accuracy, and a conclusion reached as to the best ways to maintain oral hygiene and prevent bad breath could be reached. Use the magazine and newspaper advertisements mentioned above in a bulletin board display pertaining to halitosis and other dental health problems. Such a display should be balanced with one showing the social advantages of good dental health.	A discussion of halitosis and commercial remedies should reveal that the best method to maintain oral hygiene is through the proper techniques of home care previously discussed and regular professional care.
decay cannot be so there is no for regular the dentist.	Give either an oral or a written pretest to determine how much the children already know about the responsibilities of a dentist and the importance of regular professional care.	Pages 5 and 6 in the K-3 Dental Health Syllabus pertain to the work of the dentist and professional care.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPP
A. Preventive Examination and Treatment	The work of the dentist falls into two groups: . PREVENTIVE - to avoid possible dental health problems . REMEDIAL - to correct existing dental health problems	Discuss the statement, "Regular dental care is less expensive than 'emergency' care," in terms of mouth health as well as financial cost. Have the children prepare a television commercial or short play recommending periodic professional examination. Write letters to make an appointment with the dentist.	Make dren ship gene . che ant sor mit ien . inf tee thr to bod foc
	Dental X-rays are especially valuable in preventive dentistry. When there are teeth missing, a dentist may prescribe and fit artificial teeth and dentures. Careful cleaning of the teeth by a dentist or dental hygienist consists of the removal of all foreign material from the crowns of the teeth and the smoothing and polishing of tooth surfaces to: . improve appearance . prevent damage to the gums which may result due to the irritation	Compare periodic "check-ups" for the family car to periodic dental health 'check-ups'. (less costly smoother functioning, etc.) Invite a dentist to show the use of various instruments and answer questions pertaining to fillings, cleaning, X-rays, etc. Have children list why dental X-rays are important. Procure from a dentist some discarded X-rays and look for: . bony destruction in pyorrhea cases. . decay . teeth that may be out of position	Denta . rev dec . det tee pos . det cav . loc lus . rev pac roo tum bod ent Profes can ar infect in the

ERSTANDINGS AND TAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
f the dentist two groups: VE - to avoid dental health - to correct dental health	Discuss the statement, "Regular dental care is less expensive than 'emergency' care," in terms of mouth health as well as financial cost. Have the children prepare a television commercial or short play recommending periodic professional examination. Write letters to make an appointment with the dentist.	Make sure that the children understand the relationship of dental health to general health, i.e.: . chewing food is important; decayed teeth and sore gums will not permit one to chew efficiently. . infection from diseased teeth can be carried through the blood stream to other parts of the body and set up another focus of infection.
ys are especial- in preventive are teeth mis- tist may pre- fit artificial entures. aning of the dentist or enist consists val of all for- al from the he teeth and ng and polish- n surfaces to: ppearance amage to the may result irritation	Compare periodic "check-ups" for the family car to periodic dental health 'check-ups'. (less costly smoother functioning, etc.) Invite a dentist to show the use of various instruments and answer questions pertaining to fillings, cleaning, X-rays, etc. Have children list why dental X-rays are important. Procure from a dentist some discarded X-rays and look for: . bony destruction in pyorrhea cases. . decay . teeth that may be out of position	Dental X-rays are used to: . reveal the beginning of decay . determine if permanent teeth are in normal position . detect small, hidden cavities . locate tartar or calculus deposits . reveal presence of impacted teeth, malformed roots, abscesses, cysts, tumors, and foreign bodies that may be present in the jaws. Professional dental care can arrest the progress of infections that originate in the teeth, tongue,

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES
	from tartar or calculus deposits reduce adhesion of food debris and plaque to make brushing easier.	. small hidden cavities . impacted teeth . malformed roots List and discuss preventiv practices such as fillings cleaning, fluoride applica tions, etc. Show film, *Inside Story*, A.D.A., 10 min. b&w. s.
B. Surgical Treatment	In cases of advanced dental decay, advanced periodontal disease, severe traumatic injury, tumors, or tooth mouth rehabilitation, and jaw deformity, surgical treatment may be required.	Have a dental surgeon give an illustrated talk on the why and how aspects of den tal surgery.
C. Orthodontist	An orthodontist is a dentist who has been specially trained to straighten teeth and oral bone structure in order to:	Obtain X-rays, pictures, or stone cases showing before and after cases of malocclusion treated by an orthodontist.

OR UNDERSTANDINGS AND UNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
om tartar or calculus posits duce adhesion of food oris and plaque to e brushing easier.	. small hidden cavities . impacted teeth . malformed roots List and discuss preventive practices such as fillings, cleaning, fluoride applications, etc. Show film, *Inside Story*, A.D.A., 10 min. b&w. s.	lips, jaws, and associated structures. Consult section 3E of this unit for information on artificial teeth.
ases of advanced den- decay, advanced peri- tal disease, severe matic injury, tumors, both mouth rehabilita- and jaw deformity, cal treatment may be red.	Have a dental surgeon give an illustrated talk on the why and how aspects of dental surgery.	Surgical treatment includes: . extractions . removal of diseased oral tissues both hard and soft tissues . tiring of the jaws in cases of severe fracture or othodontal care . capping of the teeth . application on inlays and bridgework . oral bone and soft tissue . correction of congenital deformities such as cleft palate and hare lip (Usually in cooperation with a plastic surgeon and an orthodontist) . preparation of teeth for fillings
thodontist is a st who has been spe- y trained to straight- eth and oral bone ture in order to:	Obtain X-rays, pictures, or stone cases showing before and after cases of malocclusion treated by an orthodontist.	Much of the work done by an othodontist has an effect on the emotional and personality development of children. Irregular teeth

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPP
	. improve appearance . correct malocclusion . correct irregularities of teeth and biting relationships for more efficient digestive function	Children who have had orthodontal work may wish to discuss this with the class. Obtain pictures of braces or discarded braces from an orthodontist to serve as the basis of a discussion. Discuss the importance of orthodontal correction in terms of emotional as well as general health.	or a cause shy, where is a self-
D. Fluoridation or Topical Fluoride Application	Fluoride solutions make the teeth more resistent to dental caries.	After a period of research, debate the topic, "To Fluoridate or Not: That is the Question." Show film, "Fluoridation," A.D.A. 5 min. color. sound.	Consul Dental a list and me suppor
	The addition of fluorides to water is the most effective and least expensive dental caries preventive available.	Interview members of the local water department to find the cost of fluoridation and the procedure for initiating such a program.	The av dation supply person the co annual chemic
	The daily use of fluoride tablets, as prescribed by a dentist, has been shown to cause a significent reduction in dental caries.		Fluori method a sixt cent r young

INGS AND NCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
ıce ısion rities ing re- more ef- e	Children who have had orthodontal work may wish to discuss this with the class. Obtain pictures of braces or discarded braces from an orthodontist to serve as the basis of a discussion. Discuss the importance of orthodontal correction in terms of emotional as well as general health.	or a receding jaw line cause some people to become shy, morose, or antisocial, whereas a good set of teeth is a source of pride and self-confidence.
make istent	After a period of research, debate the topic, "To Fluoridate or Not: That is the Question." Show film, "Fluoridation," A.D.A. 5 min. color. sound.	Consult page 5 of the K-3 Dental Health Syllabus for a list of the scientific and medical groups which support fluoridation.
uorides st ef- expen- pre-	Interview members of the local water department to find the cost of fluoridation and the procedure for initiating such a program.	The average cost of fluoridation in a community water supply is ten cents per person annually, including the cost of equipment and annual expenditures for chemicals and labor.
luoride bed by shown ent re- aries.		Fluoride treatment by any method usually results in a sixty to sixty-five percent reduction in caries in young children.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
	Topical application of fluorides makes the enamel of the tooth more resistent to mouth acids.	Call in dental hygiene teacher to demonstrate procedure for applying topical fluoride.	Children who drink fluoride water from birth mature with two-thirds less tooth decay and stronger, straighter teeth. Recent research shows that adding phosphates to topical fluoride solutions appears to increase their ability to control tooth decay. Similarly, adding phosphate to a fluoride dentifrice seems to improve its effectiveness. In preliminary laboratory studies, a solution containing traces of calcium, phosphate, and fluoride has been found effective in rehardening tooth enamel.

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